

HOME COMPUTING WEEKLY

AN ARGUS SPECIALIST PUBLICATION

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Another fantastic competition!



Win sweatshirts and software! On your bike, granola — we've games for nine machines

Another exclusive review!



Jonathan Miller's Body Works
You read it first in HCW!

Yard man slams hacker's guide

A top Scotland Yard detective has slammed the publication of a controversial guide to hacking, which was published last week. "The good has come of anything in this book," said John Austin, head of Scotland Yard's computer crime unit.

And Austin would like to see legal action taken against the publishers of The Hacker's Handbook, Century Communications.

"I don't believe that it is in the public interest that it should be published and if the public protests I will refer the matter to the Director of Public Prosecution," he said.

The author of The Hacker's Handbook, who has assumed the pseudonym Hugo Cornwall, is apparently a 40-year-old Highgate resident. He argues that hackers have their own code of responsibility.

"The sport of hacking itself may involve breach of aspects

of the law, mostly that of copyright, theft of computer time and unlicensed usage of copyright material, yet a hacker must decide individually what seems to be right," he writes.

Richard Breckman of Century Communications supports Cornwall and believes the book has an important contribution to make to the security of information. "We feel positively excited to publish this book," he said. "We hope it will help tighten security and have a positive effect. We aren't trying to encourage criminal acts."

In the eyes of the law, hacking is generally illegal, but theft of information is not a criminal offence. Convictions carry relatively small penalties.

An expert hacker, who wanted to keep his identity secret, commented: "This book is excellent but very harmful. It will lead to other books on



that bring it up related down to be publishable."

And a Scotland Yard spokesman stated that Detective Inspector Austin's views were his personal opinion, not that of the police force.

Brain behind the body

You've seen the TV programme, you've read the book — now here's the follow-up.

Body Works is Jonathan Miller's book. Well-known for his TV appearance in The Body in Question, and subsequently for the pop-up book The Human Body, Dr Miller has now directed his attention to the possibilities of home computers in a modern context.

Genesis Productions and Five Wags have collaborated to produce this original concept. Body Works is a combination of references and advice, aimed at older children and adults.

Body Works covers the main bodily functions: digestion, respiration and circulation. Nerves, muscles and cells are also studied, and user participation is vital for one game, Muscle Control, in which the player must use skill and speed to manoeuvre a character.

The program involves the user in a number of simulations. It also contains user input information for a character moving the muscles of the arms. However, interestingly, the system collects a heart attack, and you can test the effects this has on the human body.



Jonathan Miller
Body Works Director

Inside your bolder, brighter, better HCW...

Convert BASIC programs for your machine

The last word in Amstrad programming

Swot spot for bright boffins

Hi-scores, jokes, puzzles, cartoons...

SPRITE MACHINE 64

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ANIROG

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On the ball

Macrom's new, graphics, mouse device, the RBE Trackball provides precise, in a corner control, by fingertip operation of the control ball.

The Trackball can be added to any IBM PC, and 486, and 486-586 computers. It is useful in various hobbies, educational equipment and even in graphics programs.

According to Macrom it is more subtle and accurate than a mouse, needs less space than a mouse and can also be used with a mouse. It comes complete with a user guide and sophisticated mouse software, as well as software to facilitate linking the RBE to your own program.

Control Tools Exchange
Ashton Lodge, Ashton Rd,
Doncaster, South Yorks DN1



On the right track

Pure gold

US Gold has announced the launch of the US Gold Club. The membership fee is \$9.99 plus 75p postage and packing.

Members will receive a US Gold investment and hedge, a games, a membership card, discounts on US Gold software, US Gold merchandise and Gold Refinery, a regular newsletter containing news and views on US Gold games.

US Gold, Unit 30 The Parkway
Industrial Centre, Heneggs St,
Birmingham B7 4LY

Toil and trouble

Players of *Madness*, from Creative Sparks, need despair no longer. The company has been so inundated with calls that it has provided a solution.

Available to anyone sending in a.k.a., the club will hold down each one form of the five adventures. *Madness*, *Wild*, *Practical Manager*, claims that by the time you reach the fourth, you should be an expert.

The company will use the rest of the club will give a look the use of a's playground as well as helping fans of the game.

Creative Sparks, Thomas
Wm, 26a Farnborough Rd,
Farnborough GU14 7PW

Bits and bytes

Compton Teletronics is producing a second series of the 'n' Places, a computer series for young people between the ages of 10 and 20.

The series will concentrate on software for Spectrum, C64, BBC, Amstrad and Atari. The production team claims that it should be the most innovative and user-friendly computer series on TV.

Box 'n' Places will be produced by GJ Bobby Hain and the series will be screened during the summer.

Compton Teletronics, Queens
Cross, Aberdeen AB9 2SJ

Eye, eye

Bolton manufacturer of VCL, goggles, has introduced a new bolton eye to its range.

By comparison with all the eye, only in the Bolton range, the eye is produced, because the first 99 plus low, designed to improve the resolution of vision supported by the eye. These lenses are available in short, cold colors.

Bolton, Bryant GL, Biddley Ind
Est, Warrand, Widdowson,
Dorset DT2 8BA

Make a spectacle of yourself



TOP 20

Compiled by
Gallup



SOFTWARE

Week Ending March 12, 1985

Up and Coming

Very little change in the chart this week and no new entries at the top 20 in all. Only Bruce Lee has come back to disturb the status quo.

In the lower reaches there are two new entries. Emerald Isle has made it to 13 and Rocket Ball has made into the number 47 slot.

We are fascinated to see Jet Set Willy rising at number seven. It has been in the chart for 22 weeks now and, believe it or not, it isn't the longest selling cassette.

That accolade is shared by four titles, Football Manager, Flight Path 737, Beach Head and Delay Thompson's DesertMan. All of these games have been in the top 30 for 15 weeks now — quite a record.

The top ten show a fairly even mix of titles and we are very pleased to see that Jet Set Willy is heading back to the C64 and Spectrum charts. Crash Quest

LAST WEEK	THIS WEEK	TITLE	PUBLISHER	NEW	WEEKS ON CHART	1985	1984	1983	1982	1981	1980
2	1	Jet Set Willy	Gardline		22						
4	2	Field over Mountain	US Gold		11						
N/A	3	Bruce Lee	US Gold		11						
7	4	Ghostbusters	Atari		11						
9	5	Adam II	Ultimate		4						
6	6	Everyone's a Wally	Miles		11						
20	7	Jet Set Willy	Software Projects		11						
9	8	Impossible Mission	G&G		11						
1	9	Football Manager	Artificial Games		11						
90	10	Conquest	Firebird		11						
8	11	Pole Position	Atari		11						
12	12	Delay Thompson's DesertMan	G&G		11						
14	13	Conquest	Firebird		11						
15	14	Emerald Isle	Software Projects		11						
17	15	Dragon	US Gold		11						
18	16	Hardback II	G&G		11						
19	17	Crash Quest	Miles		11						
20	18	Spartan	Virgin		11						
21	19	Pyramania	Miles		11						
22	20	Demolition	Firebird		11						

SPECTRUM

C64

COMMODORE

seems well placed to stay at number one on the C64. But it will be again to face it two more as the others are trying to slide — currently on 12 weeks.

Top Ten

- 1 Jet Set Willy
- 2 Adam II
- 3 Bruce Lee
- 4 Field over Mountain
- 5 Impossible Mission
- 6 Everyone's a Wally
- 7 Ghostbusters
- 8 Conquest
- 9 Emerald Isle
- 10 Dragon

Top Ten

- 1 Conquest
- 2 Adam II
- 3 Bruce Lee
- 4 Field over Mountain
- 5 Jet Set Willy
- 6 Impossible Mission
- 7 Crash Quest
- 8 Dragon
- 9 Emerald Isle
- 10 Pyramania

Top Ten

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- 9 Emerald Isle
- 10 Pyramania

BLOCKBUSTERS BLOCKBUSTERS

The Blockbuster is the ultimate challenge. A hidden treasure, completely uncutting, is hidden in the Blockbuster. We know it's out there, but it's not what you think!

Central TV is your only chance to win it. It's a 12" x 12" x 12" cube, made of wood, and it's the only one of its kind. It's a hidden treasure, and it's the only one of its kind. It's a hidden treasure, and it's the only one of its kind. It's a hidden treasure, and it's the only one of its kind.

The Blockbuster is the ultimate challenge. A hidden treasure, completely uncutting, is hidden in the Blockbuster. We know it's out there, but it's not what you think!

If you're not a member of the Blockbuster, you can't win it. It's a hidden treasure, and it's the only one of its kind. It's a hidden treasure, and it's the only one of its kind. It's a hidden treasure, and it's the only one of its kind.

Just form the chain here and try to win it. It's a hidden treasure, and it's the only one of its kind. It's a hidden treasure, and it's the only one of its kind.

There's a great big secret hidden in the Blockbuster. It's a hidden treasure, and it's the only one of its kind. It's a hidden treasure, and it's the only one of its kind. It's a hidden treasure, and it's the only one of its kind.

Macsen Software, GBA Limited, 17 Nott Square, Carmarthen, Dyfed, SA3 1PQ

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THE ULTIMATE CHALLENGE!



CENTRAL

B

S

C



Heroes of Korn

Converted from another computer, this clonebuster comes with some very weird powers, and the default key layout is all over.

No account has been taken of the Amstrad window commands which would do a great deal to liver up a measly trashed display.

All the rain runs the default bright yellow ink, the other 24 colours are completely muted.

Like many other screen-advertising programs, it is also probably a dead end, so much of the valuable RAM has been used by the pictures, the cartoonist dialogue is unacceptably outlandish.

Memorable conversations and an apparently small vocabulary make possibly few programs available. The sound commands are greatly enjoyed. The program here for adventure programs is enormous, most storyline continuity and character names would get much from the RMI sound chip.

Doing far more for the imagination than will power, the wonderful world-building as a screen-scape pebbled beach with gulls appearing overhead are all acceptable, and in full conversion for complete realism.

The usual multi-tap aspects are used in the program and the game can be saved for future use. Your mission is to release from captivity the four heroes of Korn, namely Kevin the mighty, Icar the wise, Madam the Great and Madam the Evil.

After breaking with the powers of night, many adventures towards your loss of consciousness here, especially for the hero, with the hero, specialists looking for another hero use the software.

D.H.

Price: £3

Publisher: Interceptor Micro

Address: London House, The Green, Tisbury, Wiltshire

AMSTRAD



Buck Rogers

The game is yet another spin-off from the movies. The universe is extremely familiar. On the screen, you have a view of your spaceship which you pilot across the top of a planet. The feeling of movement is achieved by moving bands of colour which travel towards you.

There are a range of movements in the direction, but you never seem to reach them. As regular intervals, part of golden approach you. You must fly your ship between the golden Contact with other stars.

After you've passed through a number of gates, enemy ships come at you. You must destroy these ships as well as pass through the gates. The next wave comprises burning spaceships.

The final phase involves flying through space killing enemies, culminating with the main battle. It's then back to the beginning with things a little easier. The variation between difficulty levels is small apart from a different colour screen. The ship has limited fuel so to keep going you must pass ships by completely screen or killing enemies — I think.

The graphics are excellent with use of shadow to give a 3-D effect and enough movement. Sound is minimal and generally adequate.

Since this was a prototype, I had no instructions to help me. Hence my vague comments. Overall this is an extremely tedious game which really didn't seem to get anywhere. After three screens, the play was hardly any longer than in the past.

A.W.

Price: £3.33

Publisher: US Gold

Address: Unit 15, Parkway Ind Centre, Hemmings St, Birmingham B7 4LY

GG4



Jemmy

From my first watch of the first screen I sat back saying — the display being different to any other I have seen.

Following halfway across the screen and there are 20 of them to make — well there would be if the publisher had put more than minimal effort into their quality control.

All in all, from this moment has been sufficiently creative to create an original idea. The program is a cartoon, although new to me, and I have seen other Amstrad games.

Full use has been made of the Amstrad graphics and sound hardware, which are terrific in nature.

In the style of a Death section, the program air numbered down from 10, to the usual one in number 10. Having 10 as where the publisher's commentary with the program becomes understandable. The first time I got to this stage the game just looked up. Kooka! Kooka! was uttered.

I had found a Bug.

Another attempt covered black squares to appear on the display, with odd black pixels appearing through the water colour. Nothing of any interest, I tried again, this time a full error was corrected. Ready.

Had the screen run in the main usual way from 1 to 20 I may never have discovered the garbage. It concerns me to think that you would have wasted your money, with frightening implications. D.H.

Price: £9.99

Publisher: Taitex

Address: 13 High St, Buntingford

AMSTRAD



★★★★★

Flipped



★★★★★

Hooked



★★★★★

Koon



★★★★★

Tawnying



★★★★★

Cometose

★★★★★



Arrow Plus

With the 64's low loading and saving to cassette, we have seen the development of a variety of fast or Turbo loading games. These are handy if you buy games to play but are of no practical value to people who want to develop large programs with only a cassette drive. Enter Arrow Plus. This program, amongst many other things, enables you to save and load programs at 1240 speed to easily at normal (SAVE) and LOAD.

The cartridge is inserted into the east port and is active when you switch on. All commands are single letters prefixed by ~.

Four fundamental commands are supplied for the SAYING, LOADING, VERIFYING and APPENDING of BASIC programs to 288K (about seven times faster than normal). There are also commands for the SAYING, LOADING and VERIFYING of blocks of machine code. The commands perform in the same manner as their BASIC counterparts except you are given the use of the code handled. To complete the same of commands there are options for tape positioning and extra long buffers.

I performed a simple bench mark test to check the system out. Arrow Plus takes 41 seconds to load a 16K program compared to 43 seconds using a 1541 and five minutes 30 seconds using BASIC.

In addition to the speed facilities, there are a number of other useful facilities. Five others are some useful

commands including FIND, AUTO, REMEMBER, DELETE and number conversion. For machine code users there are a monitor and memory move and compare commands.

The final feature is a two pass assembler. This performs exactly as expected allowing the use of labels and the normal pseudo opcodes. Assembly is by memory which, when combined with the speed save, will enable the assembly of large blocks of source code with a cassette.

An additional item in the package is a cassette based source-assembler. While a disassembler simply allows you to examine code, a reverse assembler creates a source code complete with labels from any object code. You can then modify the source code and reassemble it. This is an extremely powerful tool which will be available to serious users.

In spite of the fairly high cost, this is a highly useful and powerful package which will be a life saver to those who cannot afford a 1541. A. W.

Price, £54

Publisher: Stack Computer Services

Address: Fitzpaul, Booths, Manselade L20 0AE

084



Pavlov 48K Spectrum

Footprint Software, Battersea, London

Pavlov may be viewed as a game or as a utility. It is named after the Russian psychologist Pavlov, who was famous for his animal experiments. The cassette play explains the principles: "Use the Power of stimulus to bring your pet under software control," it tries.

The program uses the Spectrum's keypad to generate pointing notes, bark and squeaks audible only to yourself by manipulating the notes, using principles discovered by Pavlov, it is possible to give commands to your pet in a range of up to 30 notes.

The cassette play suggests a number of aims for the program. These included pacifying floor dogs, training them and giving a lesson of order. A complete rule-book for the remote control of him is included. Complex actions, such as training, may be performed by combining groups of simple commands.

The program is said to be compatible with cat, dog, unacquainted mice and unrelated notes. We tested it on a range of notes and the program's cat. The principle seemed effective, in that we were able to pacify the animals more from the computer at various speeds, but we had trouble persuading them to learn using the "strict mode".

We found a few bugs while testing the package, but managed to drive them away using the "disruptive automatic" option on the main menu.

Pavlov should bring lots of movement to 48K/W machines when it becomes available, on 14 April. B. B.

Price £9.99

Publisher: Footprint Software

Address: Battersea, London

SPECTRUM



Go

Any chess lover looking for something new with the challenge of chess should try Go, a game with its origin in the far east, which follows the traditional eastern emphasis on strategy with a military flavour.

Go is a computer development of an original game played with stones on a 17 x 17 grid, based upon occupying territory and capturing enemy stones. It is a powerful program for either one or two players, plus an option where the computer plays against itself.

The program will only accept legal moves as beginners can experiment and for the program teach them how to play.

Players start with a black grid and take it in turns to place markers at the points where the grid lines intersect, the main aim is to occupy as much territory as possible and then to capture enemy markers, or pieces, by surrounding them.

Markers of the same colour joined together along the lines of the grid are a group and can be captured when an opposing marker is placed on the group's last liberty point. Liberty is the adjacent intersection to a single or group of markers. Markers cannot be joined across diagonals to form groups.

This is a fascinating and difficult game with many more intricacies than I have been able to mention but it is certainly "hang up" when I was using it. I don't know if this is a bug in the program or just that the game refused to play with such an idiot. J.H.B.

Price, £9.95 disc

Publisher: Acornsoft

Address: Seymour Hqs, 124 Hills Rd, Cambridge CB2 3RQ

BBC





Front Line

Here is yet another variant on the scrolling map, warzone scenario. You control a tank and are on the task of recovering supply dumps from the enemy. The action takes place on a grid of blocks, and you view the proceedings from above. The sight of the blocks is much larger than the screen and a scroll is a way of the four cardinal directions as required.

The supply dumps are denoted by small grey rectangles and they are recovered by driving your tank over them. All sounds pretty simple, eh? Well, the main fly in the ointment is the supply recovery units. These range from tanks and line units to aircraft and helicopters which the human controls. There are even hovering floats which swoop from above in the ground and capture you. Contact with any of the affected units results in reduction of your armour. The precision isn't, however, as recognised with such sophisticated you recover. When all armour is lost, you loose your car life.

The graphics are clear and colourful and are generally adequate. The map shows all the usual features of roads, buildings, bridges, rivers and trees. The use of sound is excellent with a goodly array of pace of war music music thrumming along in the background. The most interesting aspect of the game is that it's applicably addictive.

This route is a case of — you can move on. My four year old son flipped over it. Overall, good value and great fun. **4 1/2**

Price £7

Publisher/Developer: Micro

Address: London Hse. The Corrs, Telford Hse.

G64



Snowwatcher

The two parts of this program are supplied as separate cassettes, or alternately on disc.

Each is used independently, one at a time of instruction, the other a full application program.

Now comes an introductory unit do well to access the instruction manual before driving into the complexities inherent within the main program.

Only one part of the learning process appears using the software. This commences on the student's ability to recognise the principal characters.

Arguing considerably contraindicated, the time-proven method of instruction and practice followed by testing and revision is used throughout.

Commenced with the 58-page instruction manual are further materials covering sky observations, constellations, positions and star recognition. These do not require use of the software.

Though brief, it is an obligatory to include the learning manual prior to using the main application program.

This part of the software is essentially a menu-driven program. All the appropriate options are either on screen or are, be invoked through a window at the bottom of the screen display.

Occupying about two-thirds of the screen area is the star window. Throughout, views of the star formation for any part of the sky, as seen from any earthy position are available.

Provision is made for a screen of views and a variety of magnitudes. What computer relevant to the 800 brightest stars are listed within the instruction manual.

The relevant information surrounding the star window leaves you in no doubt about just where in the heavens you are looking.

Prize, but, possibly cheaper than a telescope. **4 1/2**

Price £18.95

Publisher/Developer: Astrolab
Address: 149, Kings Rd, Bournemouth, Dorset

AMSTRAD



The Snowman

The beautiful book by Raymond Briggs is now a computer game. However, they share little in common except for the central idea of creating a snowman. The game does, much in the current trend for running up and down ladders and avoiding rain.

If you can accept that, this game is a good reason with one or two things to make it stand out from the crowd. Firstly it is well drawn using the computer's colour fully as well as its space capability. Secondly, it is a 20-year-old story, much beyond the first screen, as the lyrics remain the same while different locations are added and the game becomes more difficult.

Attention is given good with a very nice plot in the link box drops into a bed shrouded in fog and it had been difficult in controlling the character. Using rather simple or better said you have to take great care on ladders as drops off puts you to sleep.

The game involves running around to pick up items, avoiding the flames which will of course melt it. Taking the snow you have to drop it in place and see the snowman being built up. Later, snow and coal, eyes, mouth and so on. There are sleep moments which must be avoided and prevents to collect.

Quite an interesting story and considerable pleasure in the game. I was quite shocked and in view of the difficulty over the third screen before being sent to bed by my wife. This is a game that will melt your heart and melt stuff in you.

M.P.

Price £7.95

Publisher/Developer:

Address: Carlton Lodge, 18 Carlton Cres, Southampton, Hants SO9 2EL

MSX



Perilfinder

This game proves to be a lot of a puzzle. The action takes place on a grid of blocks, and you view the proceedings from above. The sight of the blocks is much larger than the screen and a scroll is a way of the four cardinal directions as required.

The screen gives a view from behind your ship — a longer — which, the landscape moves towards you. The feeling of motion is given by coloured bands which move down the screen. The landscape is lit with red and white while you avoid traps.

The idea is to explore the many sectors of an area of terrain, collecting artifacts. These items are delivered to bases and weapons. Most of the area have some degree of radioactivity and your ship will only tolerate a certain amount of exposure. The level of radiation can be reduced by shooting heavily radioactive by using some of your ship's protection systems. To make life a little more interesting, when ships appear continuously and eventually to destroy you.

Graphically this is a very decent with smooth scrolling and marvellous animation. Sounds are used extensively to enhance the effect and everything comes alive. Sound on the other hand is variable, not outstanding.

Notwithstanding the quality graphics, the game seemed to lack that special something element. It was fun to play but an irritating. Another drawback was the lack of radio level. I'm surprised that Amstrad doesn't use one on all its games. At the price, rather too expensive and only a little better than average. **4 1/2**

Price £9.99

Publisher/Developer:

Address: 13 Harley Hse, Marylebone Rd, Regent Park, London NW1 1NR

G64



Scoop-Deo (The Flea)

This game makes a refreshing change from the usual running up and down ladders.

You are a flea who falls to the bottom of some sort of pit. The underground is dark and colourful but contains dangerous monsters. Jumping to the left and the right, you have to climb back up to the top and find a coloured exit to escape to the plain surface. Your jumps are controlled by holding down a key and watching a bar increase across the bottom of the screen. This is a strength game and can help you if you need to do repeated jumps.

Carried jumps can lead you to the gaps of a five-ring planet — meaning how it moves you up — a time for the more blood-thirsty players. There is also a flying dragon which can stop your progress. One watch and a victory is all.

The whole scene, including the animated characters, is drawn in fantastic detail. The kind of colour of the ladders and suggestions of the environment lead to a surreal quality which gives a fantastic touch of realism.

But there are drawbacks. Firstly it is a difficult game to master. The scariest thing is that as you get killed you must try keeping almost at the top and fall down automatically. This means it is too long when you simply want to get on with the game.

Secondly, the screen does tend to jump about as you hop up and fall down. The whole view can wobble around you. This very soon gets me and my friends of players a headache.

A challenging game which seemed to me quite a new idea. I couldn't reach the top and can't comment on what happens next. Myverline graphics said, if you're willing to persevere through the scolding screen, good value for money. **M.E.**

Price £1.65

Publisher: Quacksoft

Address: Charles Lodge, 16
Catharine Court, Southamptons,
Worcester SO9 2DJ



Angelique: A Grief Encounter

Guided siblings of former protagonists will find the programme Angelique does make a fine story.

A continuous happen with the adventures, full of delightful whimsies, makes this first video adventure a joy to play. The unfolding fantasy sequences make the going decidedly magical.

Fantasy humour and the mystery to understand the events breathe thoughts of events are a distinct advantage.

Angelique, a flying bean, perched in a glass, crash from her darling Arnold Blackwood, our heroine has to escape herself from the interior of an entire volume.

After transcending the varied fields, the personal journey across Angelique is superb through various stages to a mountain peak, magic upon a desert and crop, cautiously through a ghost town.

A comprehensive assessment of stories worth to be released in time in time, where the final romantic scene is portrayed.

Communications with Angelique is through an open window. The clarity of the standard characters set, presented in mode 1, makes for easy reading. The very descriptive dialogue provides the appropriate context.

Adventure game titles will use a lot of things. Angelique's eye, having a magical advantage on both male characters.

The opened challenge of the adventure provides lots of laughter throughout the beautiful journey, making it a joy of communication.

Adding for assistance by pressing the Help key also provides a complete guide throughout the helpful, all adding to the enjoyment.

Although the game can be used to type, however it is given a big game, including.

Price £3.50

Publisher: Perinon

Address: 10, Carfax Rd, Ray-
mond, Kettering, Northants



Snout of Spout

I rubbed my brain for hours trying to think where I had seen this comical character of the screen, and I'm fairly sure that he first appeared in one of the Beatles' films. Either way, Snout of Spout is well named, promising to be the kind of house of which dog lovers are made.

All you have to do is guide him safely through an Oggy orchard — Oggy sounds as though they are more at home in a Miss Moneypenny — meaning that Snout is not caught by the Weevils, which could well be most painful for a mouse.

Under your guidance he can climb ladders or slide down poles, and once he has collected all the Oggy in his own orchard before the time runs out he can gain into the Doctor's garden. Here you must help him to survive against increasing odds, avoiding poaching oggins and Doctor's bombs. If he is caught by the Weevils, he loses a life and must be reborn by a painful explosion of steam — I age here.

There are two skill levels, relating to the number of weevils to be encountered, and there is the generally possible but often seen Hall of Fame for those scoring greater than 999 points. Despite the fact that keyboard users are not debounced, making all too easily on falling through noses, this is actually quite an interesting game, if you like this kind of thing.

The much Extended BASIC and has a joystick option. **P.A.**

Price £3.95

Publisher: Intrigue Software

Address: Cranbrook Rd, Tring-
ton, Herts TR20 6PU



Poker

After playing the excellent Strip Poker, I now believe that another Poker program would interest me. How wrong I was. This game doesn't have that incoherent program but wins in other ways. You play a hand with an character from the wild west era, each with 1000 dollars. The game is simple: show Poker with an wild card. Each player takes a to see to deal.

After the preliminary rounds of betting, you can challenge up to three cards before the final betting. For beginners, help on each hand is available. First, we can see the hand, then, the machine will ask your hand and the most promising sequence, if you wish. During the betting phase, you can select a number of speed options. When the help more things along, you must select the speed each hand.

The use of graphics is simple but effective. The cards are displayed using the basic Commodore characters but look quite acceptable. As the players bid, their comments are displayed on screen. Most are amusing and virtually all displayed on screen. Most are amusing and certainly add to the flavour. Probably the main fault is the sluggish behaviour during the dealing phase, when a new card becomes rather annoying.

The game plays a good standard of poker and the opportunities are pretty formidable. They bluff effectively and it's difficult to decide what they're holding. If you play the game, however, I suggest you reserve an aware ending. Overall, great fun and more enjoyable than space invaders. **M.W.**

Price £3.95

Publisher: Duckworth

Address: The Pinnock Factory, 43
Gloucester Crescent, Leighton
NW1 1DT

MSX



AMSTRAD



T199



G64



PERIPHERAL



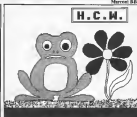
Marconi RB2

RB2 Tracker Ball

For business and home computer files, optoelectronic devices such as mice are as popular as the mouse. Tracker Ball from Marconi is one such device which has been produced for the BBC computer. It isn't a mouse in the true sense. Imagine a mouse laid on its back with you manipulating the ball to achieve cursor controls — that's a tracker ball.

This tracker ball is a very solid construction which will probably outlive your foot. The only connection necessary is via the BBC's user port, and you can fit the ball as a master of events.

As is always the case with such devices, the software provided is of paramount importance, and fortunately, the software which accompanies the tracker ball can be used in several ways to substitute the cursor keys in programs such as Wordstar or as a joystick equivalent for your arcade games. Finally Marconi has provided a utility which allows

**Work of art achieved with the Tracker Ball.**

you to rotate ball control to your own programs.

Included in the software are an artistic program and a user-defined character generator. The artistic program can produce pictures in two

different ways. Firstly, there are scene pictures which can be "loaded" into your own program. The second type of picture are stored as data in picture files. This type of storage permits you to assign

stretch, or enlarge your designs to produce unusual effects.

All of the BBC's graphics modes are supported, each one having it's normal restrictions regarding the number of colours available. The drawing commands provided are standard: circles, squares, triangles, lines, fill shapes, etc. The only fancy routines are the network method of applying colours, which is very good, and *Visual*, which involves writing text to screen. The text appears to trail off into the background, giving a 3D effect.

The character definer was somewhat less impressive. One notable bug was the failure of the program to flash the keyboard buffer. By holding down the 'P' key for a few seconds — 'P' being the command to event the present

character — the computer spent the next five minutes drawing and re-drawing the character in different ways. A mouse track has evaded. There were other such niggles associated with this program.

The Tracker Ball is a very sturdy device and with a little extra polish on the underside side would be a worthwhile purchase. J.R.

Price: £25.50

Manufacturer: Marconi Electronic Devices

Address: Catherine Rd, Lincoln LN1 5SD

BBC



H.C.W.



...and more Tracker Ball achievement

Touch Pad hardware...



Comarc Touch Pad

Touch Pad

Comarc is well known as a producer of high quality disc drives. I was therefore interested to find out whether this firm venture into the world of graphics input devices would reflect its pedigree.

The Comarc Touch Pad, decked out in BBC cream, resembles a 13 x 17 cm wedge of cheese. Installation of the device couldn't be easier: one just slots the RS423 socket, a second on to the Beck's power supply socket for the disc

drive. Before the drive owners complain, Comarc has used a plug incorporating a second socket, allowing both touch pad and drives to be connected simultaneously.

Comarc describes the touch pad as a graphic input device which may also be used as a flexible numeric keypad, however software has only been provided for the former entry. The software is provided on cassette and contains of three programs. *HELP* is a file which describes the different drawing

modes. *PAD* is the program which allows the touch pad to be used as a design tool. Finally we have *PRINT* — this program will load previously saved designs and produce a shaded dump on any Epson-compatible printer.

The design program *PAD* uses *MODE1*, giving a high resolution display and the use of four colours. Two drawing modes are available: these are displayed down the left hand side of the screen.

To select a drawing mode you

simply run the stylus down the left hand side of the touch pad. Each option in turn will be highlighted in yellow as the stylus moves down the pad, when the required option is highlighted the user presses a key on the pad and the drawing mode will be selected. Colours are displayed down the right hand side of the screen and are selected in the same way.

Drawing modes include all the usual options, e.g. dots, lines, rubber banding, rectangles, circles, and touch

robot. Shape Filling is the first of the software's features. Only rectangles and circles can be filled, and there is no facility to fill any irregular shapes. Secondly, brush strokes may only be of one thickness, and can't be mixed.

The accompanying manual describes the format of the reformatted request and transmitted by the pad. This is most useful should you intend programming the pad yourself.

The Comsat touch pad is a very compact and professional piece of equipment, but at a price tag of £79.95 would take a look at the AMX mouse before parting with your money. **A.B.**

Price: £69.95

Manufacturer: Comsat
Address: Pans Trading Est,
Broad St, Glastonbury,
GL5 3BH

BBC



...and another Touch Pad mousepiece

Get more out of your BBC Micro with the New Marconi RB2 Tracker Ball

Marconi's new Tracker Ball is superior to either a mouse or joystick and is easier to use.

The RB2 design incorporates Marconi's vast experience in making Tracker Balls for Air Traffic Control and professional equipment which demand maximum performance and reliability. It is drift free and gives more precise, positional control - the major problem on screen capture devices by fingertip movement on the ball. The three push buttons normally control the delete, return and copy functions but you can also assign your own functions to the buttons.

It's perfect! whether your needs are your hobby, an educational tool or a source of low cost CAD/CAM applications. It's ideal for word processing applications too and unlike a mouse needs no regular servicing.

If you're a Commodore or Spectrum user don't despair. There will be a Marconi Tracker Ball for you coming out in the Spring.

For full details please complete the coupon.

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Graphics Program for tape or disk.
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**This week
Spectrum games
come under the
microscope.
Our expert
gives his
informed opinion**

1984 HI-SCORE

1 1984 was the year that the pundits and would-be star donors of the Spectrum! It was also the year when Uncle Clive spent his wee wee on a Spectrum with a decent keyboard (perhaps he was using the truth after all, have your Spectrum+ boys follow our lead).

The most remarkable thing has been the volume of letters received. Even computers with much better thought than the humble Spectrum, have received more than applicants for the conversees list in an attempt to jump on the Special Award wagon and grab some money. Sadly, most of them did not! Out of over 2,000 programmes there are Spectrum fans.

For the lot, all those money saving hardware dodges look into the machine to keep the price down, which were complicated about as the various stages two years ago have fallen by the wayside in the face of some amazing work by really clever programmers dedicated to the machine.

Warm Race

Staying in reverse order with the worst race track, the spectrum computer race, by The House for the Holy Ghost from Boston Software, featuring it as a demonstration of shiny good sound technology, and beautiful working VIC 20 in tape.

Most Original

The most original award goes to Don E. Macthena from Aspenware, for the prewriting, and final Macthena, with an accompanying video track, proving as it does that games aren't all about mopping, and that a Curo keyboard might lead to a great symphony tone day! For your friends and Yagghis, West Crapshot (pat).

Best Utility

Good Software is nominated again, this for the Best Utility award with White Lightning, the amazingly complete, but complex, graphics game winning last. Second for the Most Amazingly Complete Program award. (Did anyone wear a white game using a jet?)

Special Award

A special award from the Guild of Jovial and Keyboard manufacturers goes to Dairy Thompson's Description for

groups, entitled, In Jovial. (Dairy is reported as making a substantial contribution to medical research in the field of Jovial sound).

Platforms and Levels

A controversial winner is the best platform and levels screen is Final M Star from PDB, one of the great neglected games of the year, good graphics, new and thought to play a 200, if you haven't already.

Best Graphics

Best graphics is awarded category Hill-Macpherson from Future, strongly with Billy Brown, Taito Race, and Run for Gold written by Williams, starting past ahead of Pigeons from Mike Cox, which lacks originality of concept. Hill Macpherson also deserves great credit for giving all Spectrum owners the opportunity to save their machine games to Microdrive, instead of struggling with backup cassettes.

Best Hope

Again, Edge of the Year is awarded, strongly to A.T.R.A.M. (Advanced Tactical Reconnaissance and Attack) Macthena's system in the biggest package of the year, with the best colour screen, though Spectrum and disk cassettes have been known to fall when playing it, such is its inherent excellence! Hundreds of unimpaired points have been taking a distinct gas in the writer from its 128K5 group too! Meanwhile, over in America, graphics in company competition from the CIMA 40, Puffin II, Commander, and Closehunter take the honours.

Space Game

To be fair to American, the most Space Shuttle simulator in existence, known only by Space Shuttle from Microgame as the space game of the year. (Note: features excellent sound, graphics and graphics, with enough to do to keep you hooked for a very long time).

Worst Program

The darkest definition of being worst program goes emphatically to White's Words and Letters, an educational offering. Not only don't work with Microdrive, connected, but features spelling and grammatical errors, in the worst

of purposes to teach youngsters how to write words. It was, however, challenged strongly by Theidon from where I heard that this before! (from Amazing Games, sending only in the report that it's an adventure that won't let you go North, South, East or West, and Hooch from Dendrome, which works, critics, and even it above your system, in all time low in overall/whole game).

Best Adventure

1984 also saw the release of hundreds of adventure games. Not being a neoclassic makes it difficult to pronounce. Games by the most enjoyed was Blade the Warrior from CIMA, by the look of it, even with the Quest. The prize for the best graphics should go to the Quest, the most beautiful. The Blade and Spectreman. At least a prize for something good to look at while falling miserably!

Best Game

Best game of the year is a real toughie, but finally comes down to a choice of two, each of which deserve to award in the spectrum department, but are also distinguished by their unique qualities. Both are in as the winners, versus all other software! Lego has brought for Christmas. For me, the pick of the bunch is Cytro from Future, featuring superb shadow graphics, good sound, compelling plot, and tricky handling. It's a game I return to over and over. (Slightly boring is a March Day from CIMA. I have their have been other good games for the Spectrum, but the quality of the March Day product, and the sophistication of the plot, speaks more about standing. Mind you, a lot of praise is needed to become really adept).

Reviewer's Special Award

Finally, the reviewer's special award goes to a program released in 1983, but which is deserved to be discovered by a whole host of new Microdrive owners after Christmas. Turned Two The Word Processor gives you a whole new world on the Spectrum, and without which, I for one would be lost.

A good year for Spectrum software, but I guess that the best is yet to come! D.M.

THE LAST WORD

AMSTRAD

Here's the last part of David Ellis' series on BASIC words for the Amstrad. Now you should be totally fluent

Having created the new words **RIGHT**, **LEFT**, **UP**, and **DOWN** on the **AMSTRAD**, here are three more words (used to the power of your graphics).

BOX (Drawing 12)

BOX will draw squares or rectangles in whatever **PEN** colour is required. The syntax of **BOX** is:

BOX (*PEN number*), width of box, height of box

As with the last drawing words, the **PEN** number (in square brackets) is optional and can be omitted if no change of colour is required. The height of the box is drawn on the assumption of a vertical resolution of 400 pixels, although the actual resolution is 384. To draw a box 100 pixels, although the actual resolution is 100 pixels, although the actual resolution is 100 pixels use as Mode 0 would need the command:

BOX , 1, 100, 100

The bottom left hand corner of the box will be at the current cursor position, which will not alter since the box has been drawn. Rectangles of any width and height can be created accordingly — especially useful for bar charts. The following program will draw a series of overlaid rectangles in each of the 16 colours of mode 0.

```
10 MODE 0: HEIGHT = 390
   COL = 0
20 WIDE = 430 : WHILE
   WIDE < 40
30 BOX,COL,WIDE,
   HEIGHT
40 COL = COL + 1 :
50 WIDE = WIDE - 5 :
   HEIGHT = HEIGHT + 5
60 MOVER 4,1: WEND
```

There is little point in dwelling on the numerous uses of **BOX**, as it's been a look at the word **SOLID**.

SOLID (Drawing 10)

Unlike **BOX** which draws the outline of rectangles, **SOLID**, as it's name implies, draws solid rectangles in the specified **PEN** colour. It's syntax is:

SOLID (*PEN Number*), width of rectangle, height of rectangle

The parameters take the same form as for **BOX**. The main difference lies with the cursor position. The other words are drawn from the current graphics cursor. **SOLID** must be drawn from the screen **ORIGIN** position, so if you have used any other drawing commands then remember to set the **ORIGIN** in the position where the **SOLID** is to be drawn. Once the **SOLID** has been drawn, the current **CURSOR** will be one line above the top left hand corner of the solid drawn. Further solids could then be drawn from this position without the need for resetting the **ORIGIN**. For example:

MODE 0: ORIGIN 300,100
SOLID,300,100

This will draw a 300 by 100 yellow solid. Now try

SOLID,13,100,50

This will draw a 100 by 50 green solid from the top left position of the yellow solid. Finally try

SOLID,14,10,100

This will draw a flashing 'bar' yellow 'pole' at top of the screen solid. Good use can be made by this **ORIGIN** movement to draw different shapes.

A triangle could easily be drawn with

```
10 MODE 0: ORIGIN 300,100
20 FOR X = 300 TO 1 STEP
   -1
30 SOLID,1,X,1: WEND
```

The **PEN** has been set to 1 (bright yellow) in mode 0, so the current plotting colour (if you run the previous program) is 0 or is it? Why? The last **PEN** used in mode 0 was 14. Mode 0 can only have two **PEN**s — 0 and 1. The current **PEN** is needed to bring it within range for the present mode — hence 14 is needed and becomes 0, which is the background colour. Anything drawn as background colour is 'invisible', so if the

PEN value in line 30 had been omitted you wouldn't see the triangle even though it had been drawn.

Specifying the **PEN** number 300 times in the loop is not good practice, so the new word **COLCLR** has been made (using 17). The syntax of **COLCLR** is:

COLCLR, *PEN Number*

This could be used to create a slightly different version of the last program:

```
10 MODE 0: ORIGIN 300,100
   COLCLR,0
20 FOR X = 1 TO 100
30 SOLID,1,X,1: WEND
```

The colour is set in line 10 once only, resulting in a slight increase of speed (a bit helpful).

One problem with **SOLID** is that the user **ORIGIN** is difficult to determine. Unfortunately, Amstrad's BASIC does not have a command to return the value of **CURSOR** — only **XPOS** and **YPOS** which return the graphics cursor position. The user **ORIGIN** can be obtained from machine code by calling **BLNCC** in the romblock, which returns with the X co-ordinate in the DE register, and the Y co-ordinate in the ED register. However, for a change I shall use a BASIC routine to get at these values.

The X co-ordinate is held in memory at 45044-45045, and the Y co-ordinate at 45046-45047. Two **PEN** values can be defined to return these values.

```
10 DEF FN XORG = PEEK
   (45044)+256 + PEEK
   (45045)
20 DEF FN YORG = PEEK
   (45046)+256 + PEEK
   (45047)
```

Note that unlike most BASICs the functions do not require an argument in brackets after the name — in this case they are not required neither. The **X** and **Y** **CURSOR**s are then returned by **FN XORG** and **FN YORG**. These can be used (as like any variable) — for example

```
10 MODE 0: ORIGIN 300,100
   COLCLR,0
```


COLOUR AND SOUND ON THE SPECTRUM

In the third part of our Spectrum series Colin Wilton-Davies looks at some more aspects of Spectrum BASIC



At the end of the second part of this series, I suggested that we should next look at colour and sound on the Spectrum, so let's start with some colour.

Switch on the Spectrum, press the R key, and the keyboard BORDERS will appear on the screen. Now press J and ENTER (or Shift, let's save words by saying 'Enter J'), and the edge or border of the screen will turn red. The BORDERS command will turn red. If you look at the top row of keys on a Spectrum, you will see the names of three associated colours above them, in any nice colour key: R, G and B. The numbering system is beautifully logical. Colour on your television is made by varying the proportions of red, green and blue, which are numbered 1, 2 and 3 respectively. If you want to mix three primary colours, add their numbers together (yes, I do mean add. We're dealing with lights adding together, not with paints which subtract light). Red and blue, the sum of the numbers is three, the number below Magnesia. The command BORDERS 3 gives a magenta border. Red plus green plus blue gives the answer seven, which is white, and if you don't have any lights, the answer is zero for black, so you would expect B&W to be a short program:

```
100 FOR C=0 TO 7
110 BORDERS C
120 NEXT C
```

RUN this, and you may see why line 120 is missing! It all happens much too fast to follow, so we must slow it down. One way of doing this is to insert

120 FALSE SE

and the colour will cycle at one-second intervals. I'm not going to tell you where to find keywords on the keyboard any more, as it takes up space from more interesting things. The number after FALSE is the number of microseconds that the computer PAUSES for. In the UK, each cycle is 1/50th second.

As well as being able to change the colour of the BORDERS, Spectrum BASIC will control the colour of the background or PAPER and the foreground or INK. This isn't quite so straightforward. If you GO TO line 120 to read

110 PAPER :

nothing happens on the screen when you RUN. PAPER and INK colours will only change when they are used for something, here:

115 PRINT "Hello"

and you will see the PAPER colour changing over limited areas. The top line will be hard to read, so it is written with black INK on black PAPER! If you want to change PAPER over all the screen, try

115 CLS

instead. CLS is short for Clear Screen, and you can see why. Change two lines again:

```
110 INK :
115 PRINT "Hello"
```

You will see the effect of changing INK. You may think you only have seven lines of output, but the digits in white INK on white PAPER. This is

what you'll be left with when your program finishes, which makes it hard to see the lines. Put in another line: line 116 will be able to read it while you key it in, and you END!:

116 PAPER 7 INK 3 CLS

RUN, and this time you will be able to see the listing when all is done. This is a useful line to have at the end of any program which alters colour. If your text disappears, the command GO TO 1116 is a quick way to get it back. By the way, notice that program lines can have more than one command as long as they are separated by colons.

I just said 'at the end of any program', but you can actually have colons after it. These two lines are very useful at the end:

```
1166 PAPER 7 INK 3 CLS
STOP
1167 INPUT "SAVE as file "
1168 IF SAVE IS PRINT
1169 "Rewind and Replay"
1170 VERIFY IS
```

SAVE just checks two lines under some such name as "xxxxxx" to see if you're doing one again. Before you start writing a new program, LOAD "xxxxxx", if you are editing an existing program, the lines will be SAVED with it. This last line makes it easy for you to avoid the classical programming tragedy of losing a morning's work when something on the floor over-comes the computer's memory.

GO TO 1116 every 13 minutes or so. Use a short filename which includes a number, and increment that number every time. That way, you can only lose 15 minutes' worth of work, and you can see from the filename which is your latest version. If you're lucky enough to have a Microdrive, the last line should be



```
999 INPUT "SAVE as file "
10 SAVE "a:123"
VERIFY "a:123"
```

Notice that the first 'SAVE' has to be typed letter by letter, but the second is a keyword. Don't forget to disconnect the EAR lead and not to RECORD when SAVING, and reconnect and set to PLAY when VERIFYing with cassette.

Now for a little sound. Change line 420 in the program to:

```
140 BEEP 1,2
```

As well as slowing the program to the same extent as PAUSE 30, this produces a series of rising notes. The standard Spectrum is not very loud, and if you want a serious level of sound out of it, I recommend an addition such as the Gemtech audio-graphic or piezoelectric variable capacitors into the EAR or EAR socket. BEEP has to have two numbers after it. The

first gives duration in seconds, the second gives pitch. Data line 140 is 1/30 of the program, or NEW then LOAD "twofit", and try the following. The BEEP is a bit so some reprogram, just change the numbers where possible after line 140.

```
300 REM play a tune
110 BEEP 25,30
120 BEEP 25,30
130 BEEP 25,30
140 BEEP 25,1
150 BEEP 25,1
160 BEEP 25,1
170 BEEP 25,2
180 BEEP 25,2
190 BEEP 25,3
999 INPUT "
```

Don't think you can get away with the rows of dots in the last few lines! The result is quite pleasant, at least to a musical person like me, but even using the EDIT key, you can do this putting in a longer time at going

to be tedious. Luckily, this is a suitable case for the READ and DATA statements, which can make a non-repeated process much more elegant. GO TO 9999 if you like, then get rid of lines 110 to 190, and enter

```
110 FOR i=1 TO 9
120 READ duration, pitch
130 BEEP duration, pitch
140 NEXT i
150 DATA 25,10,25,10,25,10,
25,1,25,1,25,1,25,1
160 DATA 1,1,1,1,1,1
9990 and 9999 as before.
```

The commands are to separate the numbers for the Spectrum, and you can add spaces to make it easier for you to read if you like. If you haven't typed in enough numbers, you'll get an "Out of DATA, (201)" error message, so you can see the snag of the approach. You have to know in advance how many pairs of numbers there are going to be, and put this number into line 110. Let's try

something a little different. Erase line 140 by entering 180, and enter the following:—

```
125 IF duration=999 THEN STOP
140 GO TO 120
160 DATA 999,999
The result is still the same, but now you can extend the tune by putting in as many DATA statements, before line 260, as you like, and you won't have to count the number pairs. Try it for yourself.
```

Line 125 is what is called a conditional statement, it is a very simple example of a very useful property of computers, the power to make logical decisions. If the condition "duration=999" is true, then the computer where the STOP statement is it must true, then it skips to the next line to find another instruction straight.

You may be sure we'll see more conditional, but we'll start the next version with more colour and some graphics.

IT'S
NEW!



...



Commodore 64 Basics

This book is subtitled 'a self-teaching guide' — it isn't quite a programmed learning course, but a few questions to test yourself on at frequent intervals with the answers given underneath. I would have preferred the answers to be further away, or at the very least to be printed upside down, to reduce the temptation to cheat, but if you have sufficient self-control to answer them up and work the problems on the personal computer the system would work well.

It's an American book, which explains but does not excuse the exorbitant price, and it contains a few irritating Americanisms, such as 'mash' instead of 'mash', a few inaccuracies — the advice to turn your television to channel 3 or 4 for instance — and a few omissions.

BASIC programming is fairly well covered, with chapters on flowcharts, binary maths and programming style as well as the inevitable sections on graphics and sound. Each topic is illustrated with lots of short routines and programs. There is a useful chapter on debugging, and these are all the usual appendices, mainly duplicating information given in the manual. The book does not carry assembly language or machine code.

If you work conscientiously through all 400 pages, you should know enough to enable you to write short programs for yourself. It's a slow, gentle way of learning, which will no doubt suit many people who have been frightened off by the hectic pace of Commodore's own manuals. Pay about the price, though.

M N.

Price: £14.95

Publisher: Wiley Price

Address: Baffins Lane, Chichester, West Sussex PO19 1UD

C64



The Adventurer's Companion Mike and Peter Gerrard

The Spectrum Adventurer Mike Gerrard

There's no doubting the popularity of adventure games. Although, with the exception of the Hobbit, they don't seem to make the charts regularly, they obviously have a large following, witness the growing number of magazine articles dedicated to them.

Adventure is clearly an obscure thing. Once taught, it gives us you, a bit of the writer's foot! But making the book a tool up with getting all the ground, and that's quite difficult if you're new to it. Similarly, when you're stuck in the middle of an adventure, it's very frustrating to search an apparently insoluble problem, and have to start to turn to the magazine. And while on, they won't be dealing with the one you're stuck with!

These offerings from Mike and Peter Gerrard are more than welcome therefore. The Spectrum Adventure deals with Snowball, Twin Kingdom Valley, Urban Uppart, and various implementations of The Hobbit, Colonial Cave Adventure — also known as Classic Adventure or Adventure 1 on the Spectrum — Adventureland, and Prison Adventure, mostly on the Commodore, Spectrum, and BBC.

Mike and Peter are obviously fans of the genre, and as a result, although they claim to have given 100 per cent solutions to each game, the books are written in a way which doesn't spoil the fun! A full map of each game is given at the back of the books if you really want the whole thing given away.

The main entry for each game, however, is in the form of an alphabetical list of problems. Given this structure, it means that you can play the game yourself, then when you are stuck you can refer to the particular problem and see if it's solved without spoiling the remainder of the game. If, of course, you wish to hark through the whole thing, then all you need do is follow the map, looking up each problem as it arises, though this really isn't cricket, eh?

One of the best things about these volumes, apart from the convenience of the information, is the style in which they are written. The authors' love of the type of game comes through time and time again, as, with a liberal helping of wry humour, they point you gently in the right direction. Indeed, the authors of the adventures themselves come in for a quick dedication in Mike and Peter's introduction. Mike's imagination and efforts are would-be books have been tried to spread a few rays (one down the path).

You may argue that to use such volumes is cheating, but, given these resources, that is neither a valid argument nor, sorry that talking to a friend or reading a magazine is cheating. Mike and Peter not only reveal the secrets but add your appreciation and understanding of what makes a good adventure text. A welcome addition to the bookshelf as a very reasonable price.

BM.

Price: £12

Publisher: Duckworth

Address: The Old Paper Factory, 45 Gloucester Circus, London NW1

SPECTRUM



BOOKS BOOKS



Exploring Adventures on the Amstrad CPC464 Peter Gerard

Peter Gerard, the author, starts out by defining what turns and how they manifest, then defines into the background of the original Crossbar and Wonders' Colonel Corb, and Saint Adams, the old strawed King of the gates. Further details follow about the workings of various types of adventure, then on to the basics of writing these programs using Locoscript BASIC.

The well-written account appears to assume no prior knowledge, but confirms steadily how to program the various map checking routines, the saving files, and the ending up of the data statements which will build the most of the setting. At the same time, the development of your adventure concept is discussed, and the idea of design using a map is reproduced, together with some witty bits on constructing maps — no wonder I'm hopeless at finding my way!

Following this are the things and maps for three adventures using the structure taught, together with a blow by blow account of how they work. Finally, the listings are shown complete if you want to look them in all at one go.

These are the three adventures on the tape which is available separately from the publishers — and they aren't cheap, even if you can have a sneaky look at the map! From here some interesting things to say about graphics on adventures, and I tend to agree with him. That is best... provided that it's well written. Perhaps the most impressive thing about the tape is the speed of Locoscript BASIC, it really does go like a train! D.M.

Price: £6.95 (book) £7.95 (tape)

Publisher: Duckworth

Address: The Old Pump Factory, 40 Gloucester Circus, London NW1



Machine Code Extensions for Spectrum BASIC Rob Banks

This little gem gives you the equivalent of BBC BASIC, and more, in about 4K, with or without Intertex II, and a complete explanation as to how it's done. This isn't a beginner's guide, but if you buy the book and have a bit of patience, you can flesh up with a real insight, and a very extended BASIC.

For those who can't get PEEK-POKE-BASIC, LINE-BASIC, REPEAT-UNTIL, WHILE-WEND, IF-THEN-ELSE, DEL, REMARK, PRINT, RANDOM, together with a whole host of graphics, colouring, underlining, user graphics, caps checkers and more, you can use all the keywords in all. There's also a clever way of speeding up the Spectrum's assembler to these are commands.

Using an assembler, or the line loader program provided, you hash in the code, which can then either be saved to tape or Microdrive. The rest isn't a very structured BASIC of the sort that the chips have about, which will allow you all the joys of structured 'top down' programming without the need to resort to a new machine. The only snag I can foresee is that the code isn't in the form of BASIC which is generally used by experienced users, and I suppose programs like mine show which is the more important.

All the programs and machine code routines from the book are available on the accompanying cassette from the publisher, and the two together cost less and do more than money can call extended BASICs Magic! D.M.

Price: £6.95 (book) £3.95 (cassette)

Publisher: Newton Consultants
Address: 58b Nelson Trading Est., Milton, Essex CM14 4BN



Impossible Routines for the Commodore 64

The book will probably be of use to those familiar with machine code. For this reason I was rather disappointed with the contents.

Most of the routines in the book are variations on previously published routines, in some cases going back to the days of the early 68K Pcs. For example I remember getting started about the same routine on the first Pcs because there was no software around then — with plenty of opportunities available, it looks steadily dated.

The book starts by giving a listing of the classical machine code manuals, Spectrum, is a BASIC program with a brief explanation of it's commands. Chapter five is basically a reference guide to the manual, routines and there are over 20 pages of appendices giving memory maps, ASCII codes, etc. as found in most reference guides. The more interesting stuff lies in the other chapters.

Chapter two discusses program protection. Although there is little new here the old paragraphs may attract your unsolved problems. Chapter three is a book pouch of well known utility routines. Chapter four is the one I went through in as it's about using an FX-80 with the 64.

Unfortunately all is contained was just one page of text and a standard program to download. The Commodore character set. No mention of characters, which part to use, in or words dumps, etc.

This book is not for the advanced user but the novice who hasn't been reading magazines for the last two years L.C.

Price: £6.95

Publisher: Duckworth

Address: The Old Pump Factory, 40 Gloucester Circus, London NW1 7DN



The Anatomy of the 1541 Disc Drive

This is a comprehensive book on the 1541 disc drive used in the advanced user. A few months ago it was being sold at over £14, at the new price of £9.95 it's a very good value. There are over 150 pages listing the disc BASIC. If you're after this sort of information there is no other really obtainable source.

Despite the price of the book there is no index. This would normally condemn it in my view, if a book has no index I see it back on the shelf. However, this book does contain enough information. The writing is uniform in my view so that it doesn't irritate you or show what sort of data you want to purchase. This might be important because the listing given in the double density disc are written in single density on a single density drive. Most chips will double density.

The book explains the disc commands and goes into more detail than most books. I would have preferred more importance attached to the 64 word program. This simplifies the disc handling so much that there is little need to use the basic commands.

It was nice to see a section explaining the use of the program supplied on the TEST/DEMO disc. There were comprehensive sections on direct utility programs. I picked up a lot of useful information from this book, my favourite being how to prevent a file on the disc so it can't be overwritten even though there is no write protect bit in place.

Buy the book to find out. It's the best book on 1541 discs so far L.C.

Price: £9.95

Publisher: Fox Publishing
Address: Horwath Trading Est., Pangbourne, Bucks

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```

160 CALL VCHAR(15,15,40,8):: CALL
L VCHAR(15,15,40,8)
170 CALL VCHAR(19,23,40,4):: CALL
L VCHAR(19,23,40,4)
180 CALL CHAR(33,"18181818181818
18"):: CALL VCHAR(4,3,39,7):: CALL
VCHAR(4,11,39,19):: CALL VCHAR
(14,16,39,7):: CALL VCHAR(4,25,3
3,7)
190 CALL VCHAR(8,28,31,7):: CALL
VCHAR(12,19,33,11):: CALL VCHAR
(16,3,29,7):: CALL VCHAR(16,27,3
3,7)
200 FOR A=1 TO 13 :: READ MY,2
:: CALL HCHAR(4,Y,40,2):: NEXT A
210 DATA 7,5,5,5,14,6,7,2,9,11,
2,5,11,13,14,11,30,2,15,2,8,15,1
5,5,15,21,11
220 DATA 19,5,5,19,13,5,19,21,5,
19,29,9
230 CALL CHAR(96,"000101037F3F63
030707030101000000F028ECFCF8F0C0
C0C0E0E0C0C0E07000")
240 CALL CHAR(100,"0F14373F1F0F0
203030707070307070E00008080C0F0C
6C0E0E0C06080C000000")
250 CALL CHAR(104,"0305050808171
7171713290107020C0E0C0R0D010E8E
8E8E8C99480C0404070")
260 REM *****THE GAME*****
270 SCORE=100 :: LIVES=0 :: DIS
PLAY AT(1,27)USING "##"LIVES
280 SKILL=0 :: GOTO 440
290 CALL SPRITE(42,100,16,28,9,0
,-.6*(SKILL+2),.43,96,16,60,233,0
,-.7*(SKILL+2))
300 CALL SPRITE(41,104,13,161,22
,9)
310 CALL SPRITE(44,100,16,92,9,0
,-.5*(SKILL+2),.45,96,16,125,233,0
,-.6*(SKILL+2),.46,100,16,157,9,0
,-.6*(SKILL+2))
320 HISCORE=MAX(SCORE,HISCORE)::
DISPLAY AT(1,123)SIZE(8)::USING "
*****"SCORE :: DISPLAY AT(2,
12)SIZE(8)::USING "*****"HISC
ORE
330 CALL PEEK(-31877,R)
340 CALL POSITION(43,X,Y):: X=X/
X+15)/8 :: Y=(Y+11)/8
350 CALL GCHAR(X1,Y1,CH)
360 CALL KEY(1,X,K,S):: IF S=0 THE
N 410
370 IF K=2 THEN 500
380 IF K=3 THEN 560

```

```

390 IF K=0 AND CH=33 THEN 660
400 IF K=5 AND CH=33 THEN 620
410 CALL PEEK(-31877,R):: IF R
AND 323=32 THEN 700
420 GOTO 340
430 REM SUBROUTINES FOR
MOVEMENT,LOSS OF
LIFE AND NEXT SCREEN
440 SCORE=SCORE+100 :: SKILL=SKI
LL+1 :: DISPLAY AT(1,27)USING "
##"SKILL :: IF SKILL=16 THEN 45
0 ELSE 290
450 FOR A=0 TO 30 STEP 2 :: CALL
SOUND(-99,262,R,330,R,392,R)::
CALL SOUND(-99,262,R,392,R,523,R
)
460 CALL SOUND(-99,523,R,659,R,7
84,R):: NEXT A
470 DISPLAY AT(23,13)" WELL DO
NE YOU HAVE JUST COMPLETED AL
L 15 SCREENS " :: FOR A=1 TO 800
:: NEXT A
480 DISPLAY AT(23,13)" BUT YOU H
AVE BEEN SENTENCED TO DO THEM
ALL AGAIN " :: FOR A=1 TO 80
0 :: NEXT A :: CALL HCHAR(23,1,4
0,64)
490 DISPLAY AT(23,8)SIZE(13)"HA
UNTED,HOUSE" :: GOTO 290
500 CALL GCHAR(X1,Y1+1,CH):: IF
CH=40 THEN 410
510 SCORE=SCORE+10
520 IF CH=112 AND FLAG THEN 530
ELSE IF CH=112 THEN 410 ELSE 540
530 FOR A=440 TO 880 STEP 10 ::
CALL SOUND(-99,R,0):: NEXT A ::
GOTO 440
540 CALL MOTION(41,0,-50)
550 CALL MOTION(41,0,0):: CALL L
DCATE(41,X+1-8):: GOTO 410
560 CALL GCHAR(X1,Y1+1,CH):: IF
CH=40 THEN 410
570 SCORE=SCORE+10
580 IF CH=34 THEN FLAG=-1 ELSE 6
00
590 FOR A=0 TO 30 STEP 10 :: CAL
L SOUND(-99,880,R):: NEXT A
600 CALL MOTION(41,0,50)
610 CALL MOTION(41,0,0):: CALL L
DCATE(41,X,Y+8):: GOTO 410
620 CALL GCHAR(X1,Y1,CH):: IF
CH=40 THEN 410
630 SCORE=SCORE+10
640 CALL MOTION(41,-100,0)
650 CALL MOTION(41,0,0):: CALL L
DCATE(41,X-32,Y):: GOTO 410

```

```

660 CALL GCHAR(2)=1,Y1,SH) IF
CH>99 THEN 410
670 SCORE=SCORE+10
680 CALL MOTION(81,100,0)
690 CALL MOTION(81,0,0) IF CALL L
CONT(81,X+32,Y) GOTO 410
700 CALL COLOR(81,16) IF LIVES=LI
VES+1 IF FLAG=0 IF CALL SOUND(40
0,2000,0) IF FOR A=1 TO 100 IF NE
XT A
710 DISPLAY AT(2,27) USING "##":
LIVES IF IF LIVES=3 THEN 720 ELSE
720 HISCORE=MAX(SCORE,HISCORE)
DISPLAY AT(1,12) SIZE(8) USING "
#####": SCORE IF DISPLAY AT(2,
12) SIZE(8) USING "#####": HISC
ORE
730 FOR A=0 TO 30 IF CALL SOUND(
-99,131,A) IF CALL SOUND(-99,110
A) IF NEXT A IF DISPLAY AT(23,8) S
IZE(13) IF <<GAME OVER>>
740 DISPLAY AT(24,9) SIZE(11) "PR
ESS(R) KEY"
750 CALL KEY(0,Y,0) IF 0=0 THE
N 750 ELSE CALL HCHAR(23,1,40,64
) IF GOTO 270
760 SUB INSTRUCTIONS
770 CALL SCREEN(3)
780 CALL CLEAR IF DISPLAY AT(2,7
) "HAUNTED HOUSE" IF DISPLAY AT(
3,7) "((((((((((((((((((((((((
AT(5,1) "Meet Fred" IF
790 DISPLAY AT(6,1) "THE FRED
<>" IF DISPLAY AT(8,1) "FRED D
ECIDED TO STAY IN A SUIT LIT
TLE MANSION OVER NIGHT:"

```

```

800 DISPLAY AT(11,13) "BUT THIS W
AS NO ORDINARY HOME BUT THE H
AUNTED HOUSE (GARP)" IF NOW FRED
IS RELYING ON YOU TO FREE HIM"
810 DISPLAY AT(15,13) "BUT DON'T
LET HIM TOUCH ANY SHOTS OR ELSE
YOU WILL SCORE FREE AND 3
CARDS HOME FRED WILL GO MAD
"
820 CALL HCHAR(1,1,40,32) IF CALL
VCHAR(1,1,40,21) IF CALL VCHAR(1
,32,40,21) IF CALL HCHAR(21,1,40,
32)
830 INPUT "PRESS ENTER" : RS
840 DISPLAY AT(2,1) "ERASE ALL" TH
ERE ARE 15 SCREENS EACH TIME T
HE SHOTS GETTING FASTER"
850 DISPLAY AT(5,1) "TO GET FROM
ONE SCREEN TO ANOTHER YOU MUS
T GET A KEY [TOP RIGHT HAND COR
NER]"
860 DISPLAY AT(8,1) "AND OPEN TH
E GREEN DOOR [BOTTOM LEFT CO
RNER] THIS IS ALL DONE BY TOUCHIN
G THE KEYS" IF
870 DISPLAY AT(12,1) "YOU HAVE F
RED BY THE ARROW KEYS [S D X]
"
*
880 CALL HCHAR(1,1,40,32) IF CALL
VCHAR(1,1,40,17) IF CALL VCHAR(1
,32,40,17) IF CALL HCHAR(17,1,40,
32)
890 INPUT "PRESS ENTER" : RS
900 CALL CLEAR IF CALL SCREEN(2)
910 SUBEND

```

GOOD LUCK

*



DOWN ON THE FARM

In *Shingo Sugiyama's* game for the BBC you play the part of Farmer Jo, who is having problems with his cows

As a Farmer Jo, you are fed up with the way your cows are misbehaving so you decide to take action. Unfortunately, there are two eternal-losing moments called for and the who wish to stop you. He is a robber and very intelligent, while the is a doctor and rather stupid. You must avoid both of them.

As you move round *Filing* is the place made sure you take the shortest route as the turn ends. The game ends when you are caught by the monsters or your energy runs out.

First type in listing 1 and SAVE it under "FARMER". Then type listing 2 and SAVE it under "MAIN". On cassette SAVE listing 1 immediately after listing 1. Close is listing 1 if your program is cassette based, just press and follow and listing 1 will be CHANGED as for disc based systems you must press the space bar. When the second program has LOADED, characters and controls will be displayed. Press the space bar to begin the game is entered.

N.B. This program is fully compatible with the disc system. The second program is LOADED by the first and automatically downloaded to Atari and mac, so you are in tape mode. If you wish to edit the second program after auto-downloading a bug, it's probably best to do a hard BREAK and LOAD the second program from disc.

Some typing ROMs (such as Addictive) by Time Microcenter up workspace below page and mirror with the instructions manual, so touch off the ROM before you LOAD the program. This provision does not apply to ROMs such as Toshiba or Redragon which make up workspace in some tedious way to edit where it does so here in text's program.

How it works

The game consists of two programs. The first defines characters, abilities, costs, data, price instructions and CHARGE in the second program which has access to the price data screen.

Listing 1

```
1000 REM constants
1010 MODE=0 and number
off value
1020 define procedure to assemble
machine code (used in the
program filing system, routine
to store LOAD and RUN
second program)
1030 define procedure to define
characters and strategies
used in second program,
(PHASE) make data out of
basic is only
1040 define procedure to print
instructions
1050 Each the program flow
system, if cassette CHARGE
in second program manually
1060 filing system, a disc,
LOAD is used, program
down, (MODE = 0) is
1070 END of program -- NOT
applied, if standard, stores
LOADING routine down's
work
1080 print instructions
1090 define function key 0 is
LOAD program 2, calls
machine code constant,
down, (MODE = 0) is
1100 called from instructions
```

procedure of filing system
type
100000 character definition

Listing 2

```
100000 REM constants
1010 define procedure, define 100
characters, machine code of
data
1020 define MODE, number
off error
1030 define procedure, price
characters and controls
104000 machine-code, game
program, half of time
program, half of time
loop
105000 main procedure, procedure
handles score game
106000 movement of printing,
score, money, etc
107000 called when is move
away from plot has failed
108000 movement of the
109000 movement of the
110000 set up screen before game
111000 print mode
1120000 called at beginning of
game, initialize variables
1130000 procedure called
when die
114000 clear screen procedure,
1150000 play 1000 music
1160000 proceed delay procedure
1170000 half of time
118000 called from above procedure
119000 called at beginning of
program
1200000 print instructions,
wait for space bar to be
pressed
```

```
100000 REM constants
101000 define procedure, define 100
characters, machine code of
data
102000 define MODE, number
off error
103000 define procedure, price
characters and controls
1040000 machine-code, game
program, half of time
program, half of time
loop
1050000 main procedure, procedure
handles score game
1060000 movement of printing,
score, money, etc
1070000 called when is move
away from plot has failed
1080000 movement of the
1090000 movement of the
1100000 set up screen before game
1110000 print mode
1120000 called at beginning of
game, initialize variables
1130000 procedure called
when die
1140000 clear screen procedure,
1150000 play 1000 music
1160000 proceed delay procedure
1170000 half of time
118000 called from above procedure
119000 called at beginning of
program
1200000 print instructions,
wait for space bar to be
pressed
```



ON THE GREEN



This C64 program by Andrew Clarke gives you the chance to try your hand at golf, and you don't need anyone to caddy for you

This game is a golf program, but it has certain unusual features, for instance a mail dog, a mail golfer, a basket, a hole and trees.

After the title you need to enter how many holes you wish to play. The maximum is 20, but this can be altered with some minor changes to the listing.

There is a flag fixed at the top right hand corner of the screen. This is your target.

Pressing 'Y' causes the golfer to take a swing and set the ball rolling. You must use a search to put the ball away from the dog and out

of the shooter. You must hit the flag to get the ball down the hole.

How it works

W-02 GOTO 8 only screen, read in score time

H GOTO 10 end of hole, score variable

M-04 set up all eight scores

W-06 point list to start, GOTO 10 first putt many strokes

W-08 set variable

W-10 move ball, make golfer continue swing

W-12 GOTO 10 search for hole hitting ball

W-14 correct score, move ball accordingly

W-16 check for ball hitting



SWOT SPOT



Margaret Webb looks at educational programs for young and old in our regular feature

Learning is not something we do only during school or higher education days. We can learn something new every day and for those with the inclination who keep records in a home computer, the doors to knowledge have been opened wide.

The month I have been looking at both ends of the spectrum — programs for the pre-school child and packages for adult learners. Pre-school education begins when we first speak to our children and continues until the child enters the school class. How well equipped he is for that first day at school depends upon the attention he has received at home in his first five years.

Good Housekeeping magazine, through its software house Ebury Software, has

produced a range of programs to be used with the three to eight year age range — see educational software article HCN Dec 13-27 1984 — which encourages the mother and child to work together. Two new titles have now been added to the range. These deal with logical thought, patterns and map's reading respectively.

The first, *Mr. T Meets His Match*, is a variation on the card game *Patience*. In this version you and your child play against Mr. T. The game has four levels of play, the first two have memory patterns, the third and third and fourth have numeric patterns. Difficult, yes, certainly, but quite well-difficult and can lead to some interesting conversations with the child.

On the reverse of the cassette

is another game, *Switcharoo*. The screen is set up with a row of cards. At it's simplest level there are three, two pictures and a blank. The object of the game is to fill the empty space with something that fits the theme, but is different in some way from the other two pictures. If the two empty pictures are a blue rabbit and a red kangaroo, the third picture can be either a blue kangaroo or a red rabbit.

As higher levels extra empty boxes are added, but always with the same rule — there should be one difference between each animal in the line. All in all this is a good package which will help your child in many ways as well as keeping him entertained.

The other new game in this series is *Mr. T's Juggle Smiles*. This consists of two reading

games for the four to eight year olds. The first, *River Bank*, is a beautifully animated story which deals with animals trying to hatch a life on a raft floating through the jungle. The child helps by choosing the verb to make the animal move. This can lead to a lot of discussion about what the words mean and much safety as animals like 'the elephant defecated' or 'the snake gorged'!

The other game on the cassette deals further with the concept of story building. In *Jungle Challenge*, using a multiple choice system, the child can build up a story using a choice of animals, the size of those animals, their location and the sounds they make. As with the first game the results can be hilarious and can give hours of fun. There is also a facility to replot the story, thus giving scope to improve reading skills and memory.

These Mr T packages are available for both C64 and 48K Spectrum, and at £9.95 are good value.

Collier, another of the major publishing houses, has had a range of educational software on the market for quite a while. This has been aimed at the preschool and primary age group. Now Collier has brought out a range of products aimed at the adult market. The BrainPower catalogue contains various titles aimed at helping the home computer owner get the best from himself and his machine. BrainPower, Deason, Melton,

Project, Planner and Paracostar are probably of most interest to anyone thinking about starting a new business venture. *How Words and Numbers at Work* will have a wider appeal.

All the packages have a similar basis. They consist of two tapes and a manual. The cassette contains a teaching program and no application program. The manual is a well thought out textbook which can be used as it's own before using the programs or in conjunction with the appropriate part of the teaching program.

How Words is a package aimed at anyone interested in evaluating whether they be aware or expert. The teaching program can be used as a speed award to the user. The beginner could use it as a teaching facility. The more advanced user may just want to use it to review and test his proficiency. The second cassette of the application program. Through it's emphasis the right sky can be shown from any poem on the earth so that you can use knowledge accumulated in the teaching program.

Numbers at Work follows the same format as the other packages in the range. The teaching program in conjunction with the manual will gradually lead the user through working with fractions, decimals, percentages, growth rates and rates. Much more is worked through on the screen and, as well as worked examples, there are problems to use at home. The



application program is designed to help the user work on specific problems whether they are to do with PATE, VAT, bookkeeping, interest or depreciation. In all this is a very useful package either as a study package or to help you over sticky problems.

The BrainPower series is available for a number of home computers, but not all titles are available for all machines. See

Watches is only for the Spectrum (£14.95). *Numbers at Work* is for either the C64 — tape £19.95, disc £24.95 — or the Spectrum — £24.95.

Mr T Software, National Magazine Mart, 33 Abchurch Lane, London EC4N 3DF.

BrainPower, J. Gwynne Street, London W1F 9JZ.



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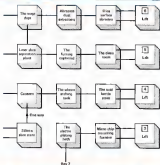
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and not pain.

This is, basically, a platform game, but potentially a very playable and original one. However, once again, I covered a poorly implemented version. The game is probably great on the C64 or MSX, but I covered the Spectrum version. I suggest Adventure changes it's continuous display of over. The basic fault is the graphics, they are flickery, periodically unsmooth and unattractive. Another gaffe is the death routine when you touch a hazard, you don't die, you walk back to the last action feeling none you touched. This often involves watching Pitfall Harry jumping over nearly every screen, and taking some time to do it. The only odds in the frustration, as does the tedious background "music", and the occasional intrusions.

If you own a C64 or MSX, this might be worth a look. However, Spectrum owners be warned, my personal rating is a "C" — absolute rubbish. Last Coverd is really overpriced at £7.95 for the above mentioned computer.

Helping

Finally, for all you arched supervisors, here are some Spicardian hints. There is a gem in the equations, but you need



to take a temperature at the posthouse — push up to climb the left wall. Mystery is waiting. On C64 the second floor. If Sandman is being a pain to the face, just do as the spirit do — jump up onto the roof, and hurt through the air. Now, these hints are for too generous!

If you need a push in the right direction, with Drive In, read on. The book has purple sides with symbols on them, and a light blue disc in between. Depositing goods in these will increase your percentage, but some objects may be needed elsewhere, so don't put everything in there. Dropping the alarm clock shared objects into the machine with the backing beam, if you will pardon the expression, exchanges your energy, but also reduces your score and percentage. The rubber ball shaped objects, when dropped in between the two green columns, will also exchange.

Finally, the second part of our great Technician Ted map is below. It deals with the majority of the left hand side of the factory.

Back next week with Mochi, The Prince, Son of Mager, hints on Dangerousness in High Power Games and more. Happy venturing!

Ghost track

I own a Spectrum and I love it! Right then, now I've got that over I can get on.

I'm writing about software piracy. I don't see what all the fuss is about. Why is it against the law? Why copy records on to tape all the time and programs off the TV and no-one seems to mind that?

I must admit that I copy the odd game or two and it could mean 50 other people that do the same.

I want to thank a couple of people. Firstly Manchester for bringing out the 486 games range. Secondly, I would like to thank Graham Freeman for the Fantasy Range. When I go into software retailers I look for my good cheap games. I picked up *Stone by Fire* and when I ran through a magic computer game I discovered the secret effect. It's not every day you find games like this, especially at £5.95.

Finally I would like to thank Activision for releasing *On the Border*. After making the book, playing the record, watching the film, and making the book again, as they keep the price I am really a *Clash* fan. I hope the publisher and retailer could increase all the other prices a bit more. It is very wrong, why else does it have to be priced at £1.99?

Kerrie Chapman, Birmingham

At present there is a hell gone through parliament which especially will cause the great problem of software piracy. Surely the houses who sell the money should be allowed to borrow people good money, writing and publishing programs, or it's only fair to pay them for all their hard work.

Joystick option

I'm writing to help me TI 99/4A, owners who would like to play *Hambo*. I have to mention software, but can't because they don't want physical. Typing in the following hex will convert the program for use with the arrow keys.

```
1000 CALL KEYSLE3
1080 IF K=000 THEN G=1040
1090 IF K=128 THEN G=1060
1100 IF K=008 THEN G=1080
1020 IF K=112 THEN G=1020
```

Now the point can be played with the arrow keys, but make sure the alphabet is in the up position.

Also, if anyone is having trouble getting through the sheets on *Hambo*, please type in the following hex:

```
1070 T=T-1
```

Now, the longer it takes, the more time you will have to collect the peach and go on to the next sheet.

Jon Paul McCalmer,
Bristol

Make it better

With reference to the ZX81 program, *Full Screen Editor* as *HCW* it, may I point out a possible error. Perhaps it's just that it's slightly blurred in my copy, but line 126 has "Let $c = (D+1) \div 2$ " where there should be a " instead of the + before 12.

May I also suggest an enhancement to enable the cursor to go automatically to the start of the next line when it reaches the end of the last line.

```
175 IF C=D THEN LET L=L+1
```

Finally, many thanks for comments to support the ZX81.

S W Oliver, Perth

Mina's best

I am an 11-year-old owner of a TI 99/4A, which I have had for two years.

At my school nearly all games own a computer. First own Spectrum, can own a C64, own an Amstrad, own a C16, there have 100's of Spectrum, T1s and VIC-20s.

My best game board that because the Spectrum has the most games, it is the best computer. But who cares when the T1 has games like *Back Rivers*, *Indoor Soccer* and many more? Maybe the Spectrum and C64 are best sellers, but this TI owners can do more than just look, considering the popularity of the 64.

While I'm writing I'd like to thank *HCW* staff for producing a magazine that covers all these machines at low cost compared to many others.

Mark Taylor, Leigh

Easy to program

I have just obtained a C64 and am very pleased with it's performance and the ease with which I can program it. For the past three weeks I have bought *HCW* which I find interesting and very useful as it contains a few enhancements for software use the C16.

However, I would like to see a few C16 programs in *HCW*'s magazine. As, as the name I enjoy *HCW* very much, please could you try and include programs for the growing number of C16 users in the country.

Kerrie O'Connor, Abingdon

Thanks for your great *Zone*. In *HCW* last we featured our *Zone* C16 program and hope to continue improving the magazine. However, we only do useful information and programs, so we need C16 programs to send their programs to us.

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LETTERS PAGE

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